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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/678,716 | 10/04/2000 | Michael W. Bychowsky | CM04412H | 6435 |
| 22917 | 7590 | 12/29/2004 | EXAMINER | |
| MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196 | | | RYMAN, DANIEL J | |
| | | ART UNIT | PAPER NUMBER | |
| | | | 2665 | |

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/678,716 | BYCHOWSKY ET AL. | |
| | Examiner | Art Unit | |
| | Daniel J. Ryman | 2665 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 October 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2 and 4-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,4,8-14,16-22,25-27,29, and 30 is/are rejected.
- 7) Claim(s) 5-7,15,23,24,28,31 and 32 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed 10/14/2004 have been fully considered but they are not persuasive. On pages 18-20 of the Response, Applicants argue that Kim does not disclose transmitting indications of times for which a packet was actually stored in the router. However, Applicants do not require the transmission of indications of times for which a packet was actually stored in the router.
2. In claims 1, 19, and 25, Applicants include the broad phrase "corresponding to." This broad phrase only requires that the indication inserted into the packets sent through the router relate in some manner to the time the packets were actually stored in the router. In Kim, the indication, namely the priority field, relates to the time the packet was actually stored in the router since the indication contains the bounds of the packet's delay in the router. Specifically, the deadline time contains the maximum bound of delay in the router (col. 5, lines 26-50) and the eligible time contains the minimum bound of delay in the router (col. 5, lines 26-50 and col. 6, lines 43-45). Therefore, Examiner maintains that Kim teaches an indication corresponding to the period of time that the packet was stored in the router.
3. In addition, claims 11 and 29 only require that the base transceiver site determine the transcoder transmission time based on the packet delay time. Applicants do not specify how packet delay time should be determined. Thus, Applicants do not require that the packets sent through the router contain the time the packet was actually stored in the router. Rather, the limitations of claims 11 and 29 only require determining, at the base transceiver site, the packet's delay in the router and then using this value to calculate the desired transcoder transmission time.

Therefore, Examiner maintains that the rejection of claims 11 and 29 is proper, even if Kim does not expressly disclose that the indication contains the actual time a packet was stored in the router.

4. Additionally, Examiner relies on the combination of Applicant's admitted prior art, Kim, and Waclawsky to suggest basing the transcoder transmission time on the time the packet was actually stored in the router. Therefore, by arguing that Kim does not specify a particular limitation, Applicants are arguing against an individual reference when the rejection is based on a combination of references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

5. For the above reasons, Examiner was not persuaded by Applicant's arguments that Applicants require the transmission of times for which a packet was actually stored in the router.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 4, 8-10, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Kim (USPN 6,215,791).

8. Regarding claim 1, Applicant teaches, as prior art, in a time division multiple access wireless communication system that facilitates full duplex transmission of information, the

wireless communication system including at least a transcoder, a base transceiver site and a router, the router being operably coupled between the transcoder and the base transceiver site and supporting a non-deterministic packetized transport for communicating information between the transcoder and the base transceiver site as a plurality of information packets (page 1, line 16-page 4, line 12), a method for the router to assist in improving signal quality of information transmitted by the base transceiver as perceived by a user of a wireless communication device, the method comprising the steps of: receiving at least one information packet from the transcoder (page 1, line 16-page 4, line 12); communicating the at least one information packet to the base transceiver site (page 1, line 16-page 4, line 12) wherein the at least one information packet forms part of a first communication (page 1, line 16-page 4, line 12).

Applicant does not expressly disclose as prior art that the step of communicating comprises determining a priority of a first information packet of the at least one information packet and when the priority indicates that the transcoder and the base transceiver site are presently synchronizing the transcoder transmission time and the base transceiver site transmission time, storing the first information packet for a period of time to enable at least one higher priority information packet of a second communication to be communicated from the transcoder to the base transceiver site where a low end-to-end delay bound would indicate synchronization since this results in the packet being transmitted just in time to the BTS wherein a low end-to-end delay results in a packet being transmitted before a packet with a longer end-to-end delay when the priority indicates that the transcoder and the base transceiver site are presently synchronizing the transcoder transmission time and the base transceiver site transmission time, the method further comprising the steps of: inserting a time-delay indication

into a portion of the first information packet, the time-delay indication corresponding to the period of time that the first information packet was stored in the router; and communicating the first information packet including the time-delay indication to the base transceiver site, wherein the time-delay indication is used by the base transceiver site to synchronize transcoder transmission time to base transceiver site transmission time.

However, Applicant does disclose as prior art transmitting packets based upon delays where the delays are based on a status of synchronization of the transcoder transmission time and the base transceiver site transmission time. Kim teaches, in a system for controlling the transmission time of a packet, communicating a packet in accordance with a priority scheme, wherein the priority scheme is based on a status of synchronization between two other devices (delay time) in order to ensure that the packet is received in a specified amount of time (col. 5, lines 26-50 and col. 6, lines 15-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to determine a priority of a first information packet of the at least one information packet and when the priority indicates that the transcoder and the base transceiver site are presently synchronizing the transcoder transmission time and the base transceiver site transmission time, storing the first information packet for a period of time to enable at least one higher priority information packet of a second communication to be communicated from the transcoder to the base transceiver site where a low end-to-end delay bound would indicate synchronization since this results in the packet being transmitted just in time to the BTS wherein a low end-to-end delay results in a packet being transmitted before a packet with a longer end-to-end delay when the priority indicates that the transcoder and the base transceiver site are presently synchronizing the transcoder transmission time and the base transceiver site

transmission time, the method further comprising the steps of: inserting a time-delay indication into a portion of the first information packet, the time-delay indication corresponding to the period of time that the first information packet was stored in the router; and communicating the first information packet including the time-delay indication to the base transceiver site, wherein the time-delay indication is used by the base transceiver site to synchronize transcoder transmission time to base transceiver site transmission time in order to ensure that the packet is received in a specified amount of time.

9. Regarding claim 2, referring to claim 1, Applicant's admitted prior art in view of Kim discloses that the priority scheme is based on a status of synchronization of transcoder transmission time and base transceiver site transmission time with respect to the at least one information packet (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22) and wherein the step of communicating further comprises when the priority indicates that the transcoder transmission time is substantially in synchronization with the base transceiver site transmission time, communicating the first information packet to the base transceiver site (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22).

10. Regarding claim 4, referring to claim 1, Applicant's admitted prior art in view of Kim suggests that the time-delay indication comprises the period of time that the first information packet was stored in the router (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50).

11. Regarding claim 8, referring to claim 1, Applicant's admitted prior art in view of Kim discloses that the step of determining a priority of the first information packet comprises the step

of evaluating a portion of the first information packet that includes an indication of the priority (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22).

12. Regarding claim 9, referring to claim 1, Applicant's admitted prior art in view of Kim discloses that the at least one information packet includes a first information packet that forms part of a first communication and a second information packet that forms part of a second communication and wherein the step of communicating comprises the steps of: determining a priority and a time of arrival of the first information packet (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22); determining a priority and a time of arrival of the second information packet (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22); when both the priority of the first information packet and the priority of the second information packet respectively indicate that transcoder transmission time is substantially in synchronization with base transceiver site transmission time, communicating the first information packet to the base transceiver site when the time of arrival of the first information packet precedes the time of arrival of the second information packet (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22); and communicating the second information packet to the base transceiver site when the time of arrival of the second information packet precedes the time of arrival of the first information packet (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22) where a low end-to-end delay bound would indicate synchronization since this results in the packet being transmitted just in time to the BTS wherein a low end-to-end delay bound results in a packet being transmitted before a packet with a higher end-to-end delay bound.

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13. Regarding claim 10, referring to claim 1, Applicant's admitted prior art in view of Kim discloses that the information packet comprises at least one of an audio information packet and a video information packet (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22).

14. Regarding claim 25, Applicant teaches, as prior art, in a time division multiple access wireless communication system that facilitates full duplex transmission of information, the wireless communication system including at least a transcoder, a base transceiver site and a router, the router being operably coupled between the transcoder and the base transceiver site and supporting a non-deterministic packetized transport for communicating information between the transcoder and the base transceiver site as a plurality of information packets (page 1, line 16-page 4, line 12), a method for the router to assist in improving signal quality of information transmitted by the base transceiver site as perceived by a user of a wireless communication device, the method comprising the steps of: receiving an information packet from the transcoder (page 1, line 16-page 4, line 12); storing the information packet for a period of time (page 1, line 16-page 4, line 12); and communicating the information packet to the base transceiver site (page 1, line 16-page 4, line 12).

Applicant does not expressly disclose as prior art inserting a time-delay indication into a portion of the information packet, the time delay indication corresponding to the period of time that the information packet was stored in the router; and communicating the information packet including the time-delay indication to the base transceiver site, wherein the time-delay indication is used by the base transceiver site to synchronize transcoder transmission time to base transceiver site transmission time. However, Applicant does disclose as prior art transmitting

packets based upon delays where the delays are based on a status of synchronization of the transcoder transmission time and the base transceiver site transmission time. Kim teaches, in a system for controlling the transmission time of a packet, inserting a time-delay indication into a portion of the information packet (col. 5, lines 26-50 and col. 6, lines 15-22), the time delay indication corresponding to the period of time that the information packet was stored (col. 5, lines 26-50 and col. 6, lines 15-22); and communicating the information packet including the time-delay indication in order to ensure that the packet is received by the base transceiver site within a particular time (col. 5, lines 26-50 and col. 6, lines 15-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to insert a time-delay indication into a portion of the information packet, the time delay indication corresponding to the period of time that the information packet was stored; and to communicate the information packet including the time-delay indication in order to ensure that the packet is received by the base transceiver site within a particular time. Applicant's admitted prior art in view of Kim suggests that the time-delay indication is used by the base transceiver site to synchronize transcoder transmission time to base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12) where the delay times are used to synchronize the transcoder transmission time and the base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12).

15. Regarding claim 27, referring to claim 25, Applicant's admitted prior art in view of Kim suggests that the time-delay indication comprises the period of time that the information packet was stored in the router (Kim: col. 5, lines 26-50).

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16. Claims 11-14, 16-22, 26, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Kim (USPN 6,215,791) in further view of Waclawsky (USPN 6,449,255).

17. Regarding claim 11, Applicant teaches, as prior art, in a time division multiple access wireless communication system that facilitates full duplex transmission of information, the wireless communication system including at least a transcoder, a base transceiver site and a router, the router being operably coupled between the transcoder and the base transceiver site and supporting a non-deterministic packetized transport for communicating information between the transcoder and the base transceiver site as a plurality of information packets (page 1, line 16-page 4, line 12), a method for the transcoder to assist in improving signal quality of information transmitted by the base transceiver site as perceived by a user of a wireless communication device, the method comprising the steps of: communicating the information packet to the router (page 1, line 16-page 4, line 12) wherein the information packet forms part of a first communication (page 1, line 16-page 4, line 12).

Applicant does not expressly disclose as prior art determining a priority of an information packet; including an indication of the priority in a portion of the information packet; and communicating the information packet to the router, whereby the indication of priority is used by the router to prioritize communication of information packets to the base transceiver site; however, Applicant does disclose as prior art transmitting packets based upon delays where the delays are based on a status of synchronization of the transcoder transmission time and the base transceiver site transmission time. Kim teaches, in a system for controlling the transmission time of a packet, communicating a packet in accordance with a priority scheme, wherein the priority

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scheme is based on a status of synchronization between two other devices (delay time) in order to ensure that the packet is received in a specified amount of time (col. 5, lines 26-50 and col. 6, lines 15-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to determine a priority of an information packet; to include an indication of the priority in a portion of the information packet; and to communicate the information packet to the router, whereby the indication of priority is used by the router to prioritize communication of information packets to the base transceiver site in order to ensure that the packet is received by the base transceiver site within a particular time.

Applicant in view of Kim does not expressly disclose that the method further comprises the steps of: prior to the step of determining a priority: receiving an indication of a desired transcoder transmission time for the information packet, the indication of the desired transcoder transmission time being based on a period of time that at least one prior information packet of the first communication was stored in the router; and determining the desired transcoder transmission time of the information packet based on the indication of the desired transcoder transmission time; and wherein the step of communicating comprises the step of communicating the information packet to the router at the desired transcoder transmission time. However, Applicant's admitted prior art in view of Kim does disclose that a end-to-end delay bound is determined for the packet, but Applicant's admitted prior art in view of Kim does not disclose how this delay bound is determined or communicated (Kim: col. 5, lines 26-50).

Waclawsky teaches, in a packet communication system, receiving an indication of a desired transmission time for the information packet; and determining the desired transmission time of the information packet based on the indication of the desired transmission time; and

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communicating the information packet at the desired transcoder transmission time in order to allow a system to automatically adapt to changing network conditions (col. 3, lines 35-60; col. 4, lines 41-50; and col. 16, line 65-col. 17, line 16) where the use of a wireless link to transmit the feedback signal and the teaching that the monitor can be an external device suggests that the monitoring can be done in another device on the network. It would have been obvious to one of ordinary skill in the art at the time of the invention to receive an indication of a desired transmission time for the information packet; and to determine the desired transmission time of the information packet based on the indication of the desired transmission time; and to communicate the information packet at the desired transcoder transmission time in order to allow a system to automatically adapt to changing network conditions.

Thus, Applicant's admitted prior art in view of Kim in further view of Waclawsky suggests prior to the step of determining a priority: receiving an indication of a desired transcoder transmission time for the information packet, the indication of the desired transcoder transmission time being based on a period of time that at least one prior information packet of the first communication was stored in the router, where the time the packet was stored in the router will influence the delay time of the packet through the network and thus when the transcoder should transmit the packet; and determining the desired transcoder transmission time of the information packet based on the indication of the desired transcoder transmission time; and wherein the step of communicating comprises the step of communicating the information packet to the router at the desired transcoder transmission time.

18. Regarding claim 12, referring to claim 11, Applicant's admitted prior art in view of Kim in further view of Waclawsky discloses that determining the priority of the information packet

comprises determining the priority of the information packet based on a status of synchronization of transcoder transmission time and base transceiver site transmission time with respect to the information packet (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22).

19. Regarding claim 13, referring to claim 12, Applicant's admitted prior art in view of Kim in further view of Waclawsky suggests prior to the step of determining a priority: determining the status of synchronization of transcoder transmission time and base transceiver site transmission time with respect to the information packet based on the indication of the desired transcoder transmission time (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60).

20. Regarding claim 14, referring to claim 12, Applicant's admitted prior art in view of Kim in further view of Waclawsky discloses that the information packet comprises an audio packet and wherein the step of communicating the information packet to the router at the desired transcoder transmission time results in reduced audio delay of the information packet (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60).

21. Regarding claim 16, referring to claim 12, Applicant's admitted prior art in view of Kim in further view of Waclawsky does not expressly disclose that the indication of the desired transcoder transmission time comprises a timing offset from a transcoder transmission time of a prior information packet of the at least one prior information packet of the first communication; however, Applicant's admitted prior art in view of Kim in further view of Waclawsky discloses transmitting a transcoder transmission time (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60). Examiner takes official notice that it is well

known it the art to communicate timing information through the use of offsets. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the indication of the desired transcoder transmission time comprise a timing offset from a transcoder transmission time of a prior information packet of the at least one prior information packet of the first communication since timing offsets are very well known.

22. Regarding claim 17, referring to claim 16, Applicant's admitted prior art in view of Kim in further view of Waclawsky suggests that the step of determining a priority of an information packet comprises the steps of: when the timing offset is equal to zero, determining that the transcoder transmission time is synchronized with the base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60); when the timing offset is not equal to zero, determining that the transcoder and the base transceiver site are presently synchronizing the transcoder transmission time and the base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60); and determining the priority of the information packet as being higher when the transcoder transmission time is synchronized with the base transceiver site transmission time than when the transcoder and the base transceiver site are presently synchronizing (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60).

23. Regarding claim 18, referring to claim 11, Applicant's admitted prior art in view of Kim discloses that the information packet forms part of a first communication (Applicant: page 1, line 16-page 4, line 12 and Kim: col. 5, lines 26-50 and col. 6, lines 15-22). Applicant's admitted prior art in view of Kim does not expressly disclose determining whether an indication of a

desired transcoder transmission time had been received within a predetermined period of time after conveyance of a prior information packet of the first communication; and when the indication of the desired transcoder transmission time had not been received within the predetermined period of time, determining that the information packet is of highest priority. However, Applicant's admitted prior art in view of Kim does disclose that a end-to-end delay bound is determined for the packet, but Applicant's admitted prior art in view of Kim does not disclose how this delay bound is determined or communicated (Kim: col. 5, lines 26-50). Waclawsky teaches, in a packet communication system, determining whether an indication of a desired transcoder transmission time had been received within a predetermined period of time after conveyance of a prior information packet of the first communication in order to allow a system to automatically adapt to changing network conditions (col. 3, lines 35-60; col. 4, lines 41-50; and col. 16, line 65-col. 17, line 16) where the use of a wireless link to transmit the feedback signal and the teaching that the monitor can be an external device suggests that the monitoring can be done in another device on the network. It would have been obvious to one of ordinary skill in the art at the time of the invention to determine whether an indication of a desired transcoder transmission time had been received within a predetermined period of time after conveyance of a prior information packet of the first communication in order to allow a system to automatically adapt to changing network conditions. Thus, Applicant's admitted prior art in view of Kim in further view of Waclawsky suggests determining whether an indication of a desired transcoder transmission time had been received within a predetermined period of time after conveyance of a prior information packet of the first communication; and when the indication of the desired transcoder transmission time had not been received within the

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predetermined period of time, determining that the information packet is of highest priority in order to ensure that every packet arrives within the desired time.

24. Regarding claim 19, Applicant teaches, as prior art, in a time division multiple access wireless communication system that facilitates full duplex transmission of information, the wireless communication system including at least a transcoder, a base transceiver site and a router, the router being operably coupled between the transcoder and the base transceiver site and supporting a non-deterministic packetized transport for communicating information between the transcoder and the base transceiver site as a plurality of information packets (page 1, line 16-page 4, line 12), a method for the base transceiver site to assist in improving signal quality of transmitted information as perceived by a user of a wireless communication device, the method comprising the steps of: receiving an information packet from the router (page 1, line 16-page 4, line 12). Applicant does not expressly disclose as prior art receiving an information packet from the router, the information packet including a time-delay indication, the time-delay indication corresponding to a period of time that the information packet was stored in the router; determining a desired transcoder transmission time of a subsequent information packet based at least on the time-delay indication and a desired base transceiver site transmission time; and communicating an indication of the desired transcoder transmission time to the transcoder. However, Applicant does disclose as prior art transmitting packets based upon delays where the delays are based on a status of synchronization of the transcoder transmission time and the base transceiver site transmission time. Kim teaches, in a system for controlling the transmission time of a packet, receiving an information packet, the information packet including a time-delay indication (col. 5, lines 26-50 and col. 6, lines 15-22), the time-delay indication corresponding to

a period of time that the information packet was stored in a router in order to ensure that the packet is received by a device within a particular time (col. 5, lines 26-50 and col. 6, lines 15-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to receive an information packet, the information packet including a time-delay indication, the time-delay indication corresponding to a period of time that the information packet was stored in the router in order to ensure that the packet is received by the base transceiver site within a particular time. Applicant's admitted prior art in view of Kim suggests determining a desired transcoder transmission time of a subsequent information packet based at least on the time-delay indication and a desired base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12) where the delay times are used to synchronize the transcoder transmission time and the base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12). Applicant's admitted prior art in view of Kim does not expressly disclose communicating an indication of the desired transcoder transmission time to the transcoder; however, Applicant's admitted prior art in view of Kim does disclose that an end-to-end delay bound is determined for the packet although Applicant's admitted prior art in view of Kim does not disclose how this delay bound is determined or communicated (Kim: col. 5, lines 26-50). Waclawsky teaches, in a packet communication system, communicating an indication of the desired transmission time in order to allow a system to automatically adapt to changing network conditions (col. 3, lines 35-60; col. 4, lines 41-50; and col. 16, line 65-col. 17, line 16) where the use of a wireless link to transmit the feedback signal and the teaching that the monitor can be an external device suggests that the monitoring can be done in another device on the network. It would have been obvious to one of ordinary skill in the art at the time of the invention to communicate an indication of the

desired transcoder transmission time in order to allow a system to automatically adapt to changing network conditions.

25. Regarding claim 20, referring to claim 19, Applicant's admitted prior art in view of Kim in further view of Waclawsky suggests receiving the subsequent information packet within a predetermined time period before the desired base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60).

26. Regarding claim 21, referring to claim 20, Applicant's admitted prior art in view of Kim in further view of Waclawsky does not expressly disclose that the desired base transceiver site transmission time comprises commencement of a first time slot and wherein the predetermined period of time comprises a time span of a second time slot immediately preceding the first time slot; however, Applicant's admitted prior art in view of Kim in further view of Waclawsky suggests that there is a predetermined period of time. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Kim in further view of Waclawsky suggests a predetermined period of time, any period of time, including one time slot preceding the transmission slot, would have been obvious absent a showing of criticality by Applicant.

27. Regarding claim 22, referring to claim 19, Applicant's admitted prior art in view of Kim in further view of Waclawsky discloses that the time-delay indication comprises the period of time that the information packet was stored in the router (Kim: col. 5, lines 26-50).

28. Regarding claim 26, referring to claim 25, Applicant's admitted prior art in view of Kim does not expressly disclose receiving an indication of a desired transcoder transmission time from the base transceiver site, the indication of the desired transcoder transmission time being based at least partly on a time-delay indication of at least one prior information packet; and communicating the indication of the desired transcoder transmission time to the transcoder; however, Applicant's admitted prior art in view of Kim does disclose that an end-to-end delay bound is determined for the packet although Applicant's admitted prior art in view of Kim does not disclose how this delay bound is determined or communicated (Kim: col. 5, lines 26-50). Waclawsky teaches, in a packet communication system, communicating an indication of the desired transmission time in order to allow a system to automatically adapt to changing network conditions (col. 3, lines 35-60; col. 4, lines 41-50; and col. 16, line 65-col. 17, line 16) where the use of a wireless link to transmit the feedback signal and the teaching that the monitor can be an external device suggests that the monitoring can be done in another device on the network. It would have been obvious to one of ordinary skill in the art at the time of the invention to receive an indication of a desired transcoder transmission time from the base transceiver site, the indication of the desired transcoder transmission time being based at least partly on a time-delay indication of at least one prior information packet; and to communicate the indication of the desired transcoder transmission time to the transcoder in order to allow a system to automatically adapt to changing network conditions.

29. Regarding claim 29, Applicant teaches, as prior art, in a time division multiple access wireless communication system that facilitates full duplex transmission of information, the wireless communication system including at least a transcoder, a base transceiver site and a router, the router being operably coupled between the transcoder and the base transceiver site and supporting a non-deterministic packetized transport for communicating information between the transcoder and the base transceiver site as a plurality of information packets (page 1, line 16-page 4, line 12), a method for the transcoder to assist in improving signal quality of information transmitted by the base transceiver site as perceived by a user of a wireless communication device, the method comprising the steps of: communicating a first group of information packets to the router, the first group of information packets forming part of a first communication (page 1, line 16-page 4, line 12).

Applicant does not expressly disclose as prior art prior to communicating an additional information packet of the first communication to the router, receiving an indication of a desired transcoder transmission time for the additional information packet, the indication being based on a period of time that the at least one information packet of the first group of information packets was stored in the router; determining the desired transcoder transmission time of the additional information packet based on the indication of the desired transcoder transmission time; and communicating the additional information packet to the router at the desired transcoder transmission time. However, Applicant does disclose as prior art transmitting packets based upon delays where the delays are based on a status of synchronization of the transcoder transmission time and the base transceiver site transmission time. Kim teaches, in a system for controlling the transmission time of a packet, receiving an information packet at a receiver, the information

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packet including a time-delay indication (col. 5, lines 26-50 and col. 6, lines 15-22), the time-delay indication corresponding to a period of time that the information packet was stored in the router in order to ensure that the packet is received by the base transceiver site within a particular time (col. 5, lines 26-50 and col. 6, lines 15-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to receive an information packet at a receiver, the information packet including a time-delay indication, the time-delay indication corresponding to a period of time that the information packet was stored in the router in order to ensure that the packet is received by the base transceiver site within a particular time.

Applicant's admitted prior art in view of Kim suggests determining a desired transcoder transmission time of a subsequent information packet based at least on the time-delay indication and a desired base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12) where the delay times are used to synchronize the transcoder transmission time and the base transceiver site transmission time (Applicant: page 1, line 16-page 4, line 12). Applicant's admitted prior art in view of Kim does not expressly disclose prior to communicating an additional information packet of the first communication to the router, receiving an indication of a desired transcoder transmission time for the additional information packet, the indication being based on a period of time that the at least one information packet of the first group of information packets was stored in the router; determining the desired transcoder transmission time of the additional information packet based on the indication of the desired transcoder transmission time; and communicating the additional information packet to the router at the desired transcoder transmission time; however, Applicant's admitted prior art in view of Kim does disclose that a end-to-end delay bound is determined for the packet although Applicant's admitted prior art in

view of Kim does not disclose how this delay bound is determined or communicated (Kim: col. 5, lines 26-50). Waclawsky teaches, in a packet communication system, communicating an indication of the desired transmission time in order to allow a system to automatically adapt to changing network conditions (col. 3, lines 35-60; col. 4, lines 41-50; and col. 16, line 65-col. 17, line 16) where the use of a wireless link to transmit the feedback signal and the teaching that the monitor can be an external device suggests that the monitoring can be done in another device on the network. It would have been obvious to one of ordinary skill in the art at the time of the invention prior to communicate an additional information packet of the first communication to the router, to receive an indication of a desired transcoder transmission time for the additional information packet, the indication being based on a period of time that the at least one information packet of the first group of information packets was stored in the router; to determine the desired transcoder transmission time of the additional information packet based on the indication of the desired transcoder transmission time; and to communicate the additional information packet to the router at the desired transcoder transmission time in order to allow a system to automatically adapt to changing network conditions.

30. Regarding claim 30, referring to claim 29, Applicant's admitted prior art in view of Kim in further view of Waclawsky does not expressly disclose that the indication of the desired transcoder transmission time comprises a timing offset from a transcoder transmission time of an information packet of the first group of information packets; however, Applicant's admitted prior art in view of Kim in further view of Waclawsky discloses transmitting a transcoder transmission time (Applicant: page 1, line 16-page 4, line 12; Kim: col. 5, lines 26-50; and Waclawsky: col. 3, lines 35-60). Examiner takes official notice that it is well known in the art to communicate timing

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information through the use of offsets. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the indication of the desired transcoder transmission time comprise a timing offset from a transcoder transmission time of a prior information packet of the at least one prior packet of the first communication since timing offsets are well known.

Allowable Subject Matter

31. Claims 5, 7, 23, 24, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest that the time-delay indication is a quantity of packets that were communicated by the router to the BTS during the period of time that the packet was stored in the router.

32. Claims 6, 15, 31 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest that the time-delay indication is the average period of time that the packets were stored in the router.

Conclusion

33. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

WR



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